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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,256	04/09/2001	Jeffrey Dinkel	DINK1	7582
6980 7590 07/10/2008 TROUTMAN SANDERS LLP 600 PEACHTREE STREET, NE ATLANTA, GA 30308				
EXAMINER				
A. PHI DIEU TRAN				
ART UNIT		PAPER NUMBER		
3633				
NOTIFICATION DATE		DELIVERY MODE		
07/10/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary****Application No.**

09/829,256

**Applicant(s)**

DINKEL, JEFFREY

**Examiner**

PHI D. A

**Art Unit**

3633

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13, 45, 46 and 49-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 45-46, 49-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/C2)
- Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/7/08 has been entered.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 8-9, 13, 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel (3284980) in view of Mathieu (01/0000738) and Brown et al (6931809).

Dinkel shows a prefabricated construction element for use after its manufacturing as an underlayment or backerboard comprising a cementitious core (3) having an upper principal face and a lower principal face, the upper and lower principal surface having reinforcing mesh material embedded in or adhered thereto, a cementitious bonding surface remaining on the upper principal face of the element after the manufacture of the construction element, the construction element being prefabricated, the upper principal face having a single layer of pervious reinforcing mesh embedded in or adhered to the upper principal surface, an upper cementitious

coating disposed on the upper principal face of the core and the pervious reinforcing mesh, a pervious cementitious bonding surface remaining on the upper principal face of the panel after manufacture of the cementitious panel, the cement core comprising Portland cement and an additive selected from the group consisting of expanded shale, expanded clay, sintered clay, pumice, slag, calcium carbonate, slate, perlite, vermiculite, volcanic cinders, tuff, sintered fly ash, industrial cinders, foam beads, glass beads (light aggregate),

Dinkel does not show the lower principal face not having reinforcement mesh material embedded in or adhered to the lower principal surface, an impervious non-cementitious reinforcement web disposed directly on the lower principal face of the core, the impervious web remaining on the lower principal face of the core after the manufacture of the element, a non-cementitious surface remaining on the lower principal face of the element after the manufacture of the construction element, the impervious non-cementitious web having sufficient tensile strength to provide the construction element with a flexural strength capable of supporting loads associated with elements used as an underlayment or backerboard, the impervious web having a resistance to free water penetration greater than or equal to that of felt paper, the core including alkaline resistant fibers.

Mathieu discloses a core being reinforced with alkaline fibers to strengthen the core.

Brown et al discloses the lower principal face(at 11) not having reinforcement mesh material embedded in or adhered to the lower principal surface, an impervious non-cementitious reinforcement web (3) disposed directly on the lower principal face of the core(4), the impervious web remaining on the lower principal face of the core after the manufacture of the element, a non-cementitious surface remaining on the lower principal face of the element after

the manufacture of the construction element, the impervious non-cementitious web having sufficient tensile strength to provide the construction element with a flexural strength capable of supporting loads associated with elements used as an underlayment or backerboard, the impervious web having a resistance to free water penetration greater than or equal to that of felt paper.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's structure to show the lower principal face not having reinforcement mesh material embedded in or adhered to the lower principal surface, an impervious non-cementitious reinforcement web disposed directly on the lower principal face of the core, the impervious web remaining on the lower principal face of the core after the manufacture of the element, a non-cementitious surface remaining on the lower principal face of the element after the manufacture of the construction element, the impervious non-cementitious web having sufficient tensile strength to provide the construction element with a flexural strength capable of supporting loads associated with elements used as an underlayment or backerboard, the impervious web having a resistance to free water penetration greater than or equal to that of felt paper as taught by Brown et al in order to provide a construction element that is highly resistant to water penetration, and having the core including alkaline resistant fibers would strengthen the core of the panel as taught by Mathieu.

Per claim 9, Dinkel as modified shows the impervious non-cementitious reinforcement web comprising a single reinforced polymer membrane layer.

Per claim 52, Dinkel as modified shows a backerboard panel consisting of a cementitious core having first surface and a second surface, a reinforcement mesh material embedded in the first surface, and an impervious membrane disposed directly on the second surface.

Per claim 53, Dinkel as modified shows a backerboard panel consisting of a cementitious core having first surface and a second surface, a reinforcement mesh material embedded in the first surface, a coating disposed atop the first surface, and an impervious membrane disposed directly on the second surface.

2. Claims 2, 3, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel in view of Mathieu (0000738) and Brown et al.

Dinkel as modified shows all the claimed limitations except for the fiber being chopped reinforcement fibers randomly dispersed in the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's modified structure to show the fiber being chopped reinforcement fibers randomly dispersed in the core because using chopped fibers randomly distributed on a core to reinforce a core is well-known in the art as it provides high strength to the core while maintaining low distribution cost.

3. Claims 4, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel, Brown et al and Mathieu (0000738) as applied to claim 2 or 8 above and further in view of Nicoll Jr. (3887952).

Dinkel as modified shows all the claimed limitations except for the web having water impervious paperboard.

Nicoll Jr. shows a water impervious web being paperboard.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's modified structure to show the membrane being water impervious paperboard as taught by Nicoll Jr. because waterproof paperboard allows for the easy and cheap construction of a waterproof layer as taught by Nicoll Jr.

4. Claims 5, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel in view of Mathieu (0000738) and Brown et al as applied to claim 2 or 8 above and further in view of Flack et al (4828635).

Dinkel as modified shows all the claimed limitations except for the web comprising spunbonded olefin.

Flack et al discloses a web made of spunbonded olefin.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's modified structure to show the membrane comprising spunbonded olefin because it allows for the construction of a water vapor permeable layer and energy cost saving as taught by Flack et al.

5. Claims 6, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel in view of Mathieu (0000738) and Brown et al as applied to claim 2 or 8 above and further in view of Galer (4450022).

Dinkel as modified shows all the claimed limitations except for the non-cementitious web comprising an alkaline resistant dense polymer fiber mat.

Galer shows a membrane an alkaline resistant dense polymer fiber mat.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's modified structure to show a non-cementitious web comprising an

alkaline resistant dense polymer fiber mat because it enables the formation of a reinforced protective layer as taught by Galer.

6. Claims 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel (3284980) in view of Brown et al (6931809). Mathieu (0000738) in view of Moore (4882888).

Dinkel shows a construction panel comprising a cement core (3) having an upper principal face and a lower principal face, an upper stratum face consisting of a pervious reinforcement mesh having a coating of cement slurry disposed on the surface of the mesh, the mesh embedded in the upper principal face of the core, a lower stratum on the lower principal face of the core,

Dinkel does not show the lower stratum consisting of an impervious non-cementitious reinforcement web layer disposed directly on the lower principal face of the core.

Brown et al shows a core having a lower stratum (at 11) consisting of an impervious non-cementitious reinforcement web layer disposed directly on the lower principal face of the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's structure to show the lower stratum consisting of an impervious non-cementitious reinforcement web layer disposed directly on the lower principal face of the core in order to provide a lower layer that is water resistant as taught by Brown et al.

Per claim 46, Dinkel as modified further shows the upper principal face and the lower principal face having different moisture resistant surfaces respectively, on each.

Per claim 51, Dinkel as modified further shows the web comprising a reinforced polymer membrane.



7. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel (3284980) in view of Brown et al (6931809) as applied to claim 45 above and further in view of Mathieu (0000738).

Dinkel as modified shows all the claimed limitations except for the core including alkaline resistant fibers.

Mathieu discloses a cement core including alkaline resistance fibers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's structure to show the core including alkaline resistant fibers would strengthen the core of the panel as taught by Mathieu.

Per claim 9, Dinkel as modified shows the impervious non-cementitious reinforcement web comprising a single reinforced polymer membrane layer.

8. Claims 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel (3284980) in view of Brown et al (6931809) and Mathieu.

Dinkel as modified shows all the claimed limitations except for the fiber being chopped reinforcement fibers randomly dispersed in the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's modified structure to show the fiber being chopped reinforcement fibers randomly dispersed in the core because using chopped fibers randomly distributed on a core to reinforce a core is well-known in the art as it provides high strength to the core while maintaining low distribution cost.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1-13, 45-46, 49-53 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art shows different panel composition designs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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7/8/08